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MASTER INDEX: DOCKET A-95-27

### CONTROL OF EMISSIONS OF AIR POLLUTION FROM HIGHWAY HEAVY-DUTY ENGINES

Subject Matter

- I. Notice of Intent or ANPRM, if any
- II. Items Considered in Developing Proposal
- III. Proposal
- IV. Additional Items Considered After Proposal in Developing Final Rule
- V. Final Action

Subcategory I: Notice of Intent or ANPRM

Number	Description
AMS-FRL	ANPRM Control of Air Pollution for Heavy-Duty Engines

#### Subcategory II-A: EPA Studies or Contractor Reports

Number	Description
II-A-1	Air Quality Criteria Document for Oxides of Nitrogen, EPA-600/8-91/049aF-cF, August 1993 (NTIS).
II-A-2	Deposition of Air Pollutants to the Great Waters: First Report to Congress, EPA-453/R-93-055, May 1994.
II-A-3	"Acid Deposition Standard Feasibility Study, A Report to Congress," prepared for the U.S. EPA by the Cadmus Group, Inc., under contract number 68-D2-0168, February 6, 1995.
II-A-4	Air Quality Criteria Document for Ozone and Related Photochemical Oxidants, EPA-600/P-93/004aF, bF, cF, July 1996 (NTIS).
II-A-5	Regional Ozone Modeling for Northeast Transport (ROMNET), EPA document EPA-450/4-91-002a, June 1991.
II-A-6	"The Response of Regional Ozone to VOC and NOx Emissions Reductions: An Analysis for the Eastern United States Based on Regional Oxidant Modeling" S.H. Chu, E.L. Meyer, W.M. Cox, R.D. Scheffe.
II-A-7	Kuruville, John et al., "Modeling Analyses of the Ozone Problems in the Northeast," prepared for U.S. EPA; CA No. X819328-01-0, EPA document No. EPA-230-R-94-108, 1994.
II-A-8	"National Air Pollutant Emissions Trends, 1990-1993," EPA-454/4-94-027, October 1994.
II-A-9	"Summary of EPA Regional Oxidant Model Analyses of Various Regional Ozone Control Strategies", November 28, 1994.

#### Subcategory II-A: EPA Studies or Contractor Reports

Number	Description
II-A-10	The State of the Southern Oxidants Study: Policy-Relevant Findings in Ozone Pollution Research 1988-1994, April 1995.
II-A-11	"Inventory Development Summary Report" from E.H. Pechan and Associates, draft, August 1995.
II-A-12	"Estimated Economic Impact of New Emission Standards for Heavy-Duty On-Highway Engines," prepared for the U.S. EPA by Acurex Environmental under contract number 68-C5-0010, 01-26-96.
II-A-13	"Heavy-Duty Engine Rebuilding Practices," U.S. EPA, MOD, Washington, DC, Final Report, 03-21-95.

#### Subcategory II-B: EPA Factual Memoranda

Number	Description
II-B-1	Memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation, to EPA Regional Administrators, re Ozone Attainment Demonstrations, March 2, 1995.
II-B-2	"Section 182(f) Nitrogen Oxides (NOx) Exemptions Revised Process and Criteria," EPA memo from John S. Seitz, Director, OAQPS, to Regional Air Directors, February 8, 1995.
II-B-3	"Section 182(f) Nitrogen Oxides (NOx) Exemptions Revised Process and Criteria," EPA memo from John S. Seitz, Director, OAQPS, to Regional Air Directors, May 27, 1994.
II-B-4	Memorandum from Tad Wysor, Senior Engineering Project Manager, EPA, to Air Docket A-95-27, re Summary of Heavy-Duty Engine Emission Control Technologies, August 24, 1995.
II-B-5	Office of Enforcement and General Counsel, Mobile Source Enforcement Memorandum No. 1A, re Interim Tampering Enforcement Policy, June 25, 1974.
II-B-6	Engine Switching Fact Sheet, April 2, 1991.
II-B-7	Memorandum and diskette from Phil Carlson, Chemical Engineer, Highway and Large Engine Programs Group (HLEPG), Engine Programs and Compliance Division (EPCD), to U.S. EPA Air Docket A-95-27, re Cost Effectiveness Analysis of Proposed Heavy-Duty Engine Standards, 06-10-96.
II-B-8	Memorandum from Christopher Lieske, Environmental Engineer, Engine Programs and Compliance Division, to U.S. EPA Air Docket re options for heavy-duty gasoline engine emission standards, 07-01-96.

#### Subcategory II-C: EPA Correspondence to Persons Outside the Agency

Number	Description
II-C-1	Letter to Dennis Zane, Coalition for Clean Air, and Alex Levinson, Sierra Club, from Mary Nichols, Assistant Administrator, U.S. EPA, January 12, 1995.
II-C-2	Letter to Robert H. Baldwin, Ventura County Air Pollution Control District, from Chester J. France, Director, EPCD, in response to control #OAR-96-0080.
II-C-3	Letter (draft) to Bruce S. Carhart, Ozone Transport Commission, from Margo Oge, Administrator, U.S. EPA, in response to II-D-76.

Number	Description
II-D-1	Letter from the American Lung Association, the Natural Resources Defense Council, the Institute of Clear Air Companies, Inc., and the Arizona Center for Law in the Public Interest to Mary Nichols, Assistant Administrator, U.S. EPA, dated December 22, 1995.
II-D-2	Letters from Darryl D. Tyler, STAPPA, and Robert H. Colby, ALAPCO, to Carol Browner, Administrator, U.S. EPA, dated May 4, 1995 and August 7, 1995.
II-D-3	Letters from Jason S. Grumet, Northeast States for Coordinated Air Use Management (NESCAUM), to Carol Browner, Administrator, U.S. EPA, dated May 18, 1995 and August 7, 1995.
II-D-4	Letter from James K. Hambright, Mid-Atlantic Regional Air Management Association (MARAMA), to Carol Browner, Administrator, U.S. EPA, dated June 5, 1995.
II-D-5	Letter (with attachment) from Bruce I. Bertelsen, Executive Director, MECA, to Carol Browner, Administrator, U.S. EPA, dated June 9, 1995.
II-D-6	Letter from Veronica Kun and Richard Kassel, Natural Resources Defense Council, to Carol Browner, Administrator, U.S. EPA, dated August 9, 1995.
II-D-7	Letter from Stanley LaBruna, Public Service Electric and Gas Company, to Carol Browner, Administrator, U.S. EPA, dated August 1, 1995.
II-D-8	Letter from Allen R. Schaeffer, American Trucking Association, to Chester France, Director, Regulation Development and Support Division, U.S. EPA, dated July 24, 1995.

<u>Number</u>	Description
II-D-9	Letter from Mary A. Gade, State of Illinois Environmental Protection Agency, to Carol Browner, Administrator, U.S. EPA, dated March 3, 1995.
II-D-10	Letter from Paul Simon, U.S. Senator, United States Senate (re letter from Jim Edgar, Governor, State of Illinois attached, dated 03-09-95) to Carol Browner, Administrator, U.S. EPA, dated June 8, 1995.
II-D-11	Letter (with attachments) from L. Bruce Hill, Ph.D., Appalachian Mountain Club, to Carol Browner, Administrator, U.S. EPA, dated June 22, 1995.
II-D-12	Letter from Andrew H. Aitken, New England Power Service Company, to Carol Browner, Administrator, U.S. EPA, dated August 1, 1995.
II-D-13	Letter from Trudy Coxe, The Commonwealth of Massachusetts, to Carol Browner, Administrator, U.S. EPA, dated August 2, 1995.
II-D-14	Letter from Fran DuMella, American Lung Association, to Carol Browner, Administrator, U.S. EPA, August 8, 1995.
II-D-15	Resolution of the States of the Ozone Transport Commission supporting the U.S. Environmental Protection Agency's efforts to control emissions from diesel engines.
II-D-16	Letter from Kenneth A. Colburn, State of New Hampshire Department of Environmental Services, to Susan Studlien, Acting Director, EPA New England, dated July 31, 1995.

Number	<u>Description</u>
II-D-17	Letter from Linda Whitney, Environmental Council of Sacramento, and Kathleen E. Mead, Air and Transportation Committee, to Carol Browner, Administrator, U.S. EPA, dated July 28, 1995.
II-D-18	Letter from Paul J. Miller, Environmental Defense Fund and the W. Alton Jones Foundation, to Carol Browner, Administrator, U.S. EPA, dated July 24, 1995.
II-D-19	Letter (with attachment) from Dennis R. Minano, General Motors Corporation, to Carol Browner, Administrator, U.S. EPA, dated June 30, 1995.
II-D-20	Letter from John R. Garrison, American Lung Association, to Carol Browner, Administrator, U.S. EPA, dated July 17, 1995.
II-D-21	Letter from David Sterman, New York State Department of Environmental Conservation, to Carol Browner, Administrator, U.S. EPA, dated July 20, 1995.
II-D-22	Letter from Deborah Gordon, Union of Concerned Scientists, to Carol Browner, Administrator, U.S. EPA, dated July 31, 1995.
II-D-23	Letter from Maureen Ogden, New Jersey General Assembly, to Carol Browner, Administrator, U.S. EPA, dated August 9, 1995.
II-D-24	Letter from Daria J. Gere, Region 5, to the U.S. EPA Air Docket, dated September 5, 1995.
II-D-25	Letter from W.H. Butterbaugh, National Propane Gas Association to the U.S. EPA Air Docket, dated August 31, 1995.

Number	Description
II-D-26	Letters (with attachments) from Francis W. Jackson, BSME Northwestern University, MME University of Delaware, to Tad Wysor, U.S. EPA Air Docket, dated September 12 and 14, 1995.
II-D-27	Letter from Michael Berry, New Jersey Clean Air Council, State of New Jersey, to Carol Browner, Administrator, U.S. EPA, dated August 23, 1995.
II-D-28	Letter from Sidney J. Holbrook, Department of Environmental Protection, State of Connecticut, to Carol Browner, Administrator, U.S. EPA, dated August 17, 1995.
II-D-29	Letter from Joseph R. Williams, Air Quality Program, State of Washington, to Mary Nichols, Assistant Administrator, U.S. EPA, dated July 20, 1995.
II-D-30	Letter from James W. Rue, Commonwealth of Pennsylvania, Department of Environmental Resources, to the U.S. EPA Air Docket, dated October 2, 1995.
II-D-31	Comments from Jeffrey L. Clarke, American Gas Association, to Tad Wysor, U.S. EPA, dated October 3, 1995.
II-D-32	Letter (with attachment) from Sharon D. Nichols, Western Highway Institute, to the U.S. EPA Air Docket, dated September 29, 1995.
II-D-33	Letters from Gregory E. Vlasek, California Natural Gas Vehicle Coalition, to the U.S. EPA Air Docket, dated September 29, 1995, and to John Dunlap, California Air Resources Board, dated September 25, 1995.

Number	Description
II-D-34	Letter from C. Wayne Ashworth, Virginia Farm Bureau Federation, to Margo T. Oge, Director OMS, U.S. EPA, dated September 28, 1995.
II-D-35	Letter from Dawna Osborne, South Dakota Petroleum Marketers Association, to Margo T. Oge, Director OMS, U.S. EPA, dated September 28, 1995.
II-D-36	Letter from James F. Olsen, Indiana Highway Users Conference, to Margo T. Oge, Director OMS, U.S. EPA, dated September 28, 1995.
II-D-37	Letter from W. H. Butterbaugh, National Propone Gas Association, to U.S. EPA Air Docket dated October 30, 1995.
II-D-38	Letter from Jerry C. Summers, Rhone-Poulenc, to Tad Wysor, U.S. EPA, dated October 2, 1995.
II-D-39	Letter from Tom Cackette, California Air Resources Board, to the U.S. EPA Air Docket dated September 19, 1995.
II-D-40	Comments from the American Trucking Associations, Inc. (ATA), to the U.S. EPA dated October 17, 1995.
II-D-41	Comments from Automotive Engine Rebuilders Association, Automotive Parts Rebuilders Association, Automotive Parts and Accessories Association, Automotive Service Industry Association, Specialty Equipment Market Association, and Auto International Association, to the U.S. EPA dated October 2, 1995.
II-D-42	Comments from the International Association of Drilling Contractors to the U.S. EPA dated October 13, 1995.

Number	Description
II-D-43	Comments from the Engine Manufacturers Association (thru Neal Gerber & Eisenberg law offices) to the U.S. EPA dated October 13, 1995.
II-D-44	Comments from the Society of Independent Gasoline Marketers of America (thru Collier, Shannon, Rill & Scott law offices) to the U.S. EPA dated October 12, 1995.
II-D-45	Comments from the Maryland Department of the Environment to the U.S. EPA dated October 10, 1995.
II-D-46	Letter (with attachments) from Daniel J. Fortier, Greater Boston Clean Cities Initiative, to the U.S. EPA Air Docket dated October 13, 1995.
II-D-47	Comments from Judith Lamare, Cleaner Air Partnership, to the U.S. EPA dated October 11, 1995.
II-D-48	Comments from Southern California Gas Company to the U.S. EPA Air Docket dated September 29, 1995.
II-D-49	Comments from Texas Utilities Services, Inc., to the U.S. EPA Air Docket dated October 12, 1995.
II-D-50	Comments from STAPPA/ALAPCO to the U.S. EPA Air Docket dated October 13, 1995.
II-D-51	Comments from Bruce I. Bertelsen, Manufacturers of Emission Controls Association (MECA), to Margo Oge, Director OMS, U.S. EPA, dated October 1, 1995.
II-D-52	Comments from Dr. David E. Wojick, P.E., Coalition for a Workable Clean Air Program, to the U.S. EPA dated October 2, 1995.

Number	<u>Description</u>
II-D-53	Comments from Douglas I. Greenhaus, National Automobile Dealers Association, to the U.S. EPA Air Docket, dated October 2, 1995.
II-D-54	Comments from Bruce Carhart, Ozone Transport Commission, to U.S. EPA Air Docket, dated October 23, 1995.
II-D-55	Comments from William F. O'Keefe, American Petroleum Institute, to Margo T. Oge, Director OMS, dated October 19, 1995.
II-D-56	Comments submitted on behalf of The Natural Resources Defense Council, The Union of Concerned Scientists, The American Lung Association, The Sierra Club of California, The Coalition for Clean Air, and The Arizona Center for Law in the Public Interest, by Veronica Kun, The Natural Resources Defense Council, to U.S. EPA Air Docket, dated October 23, 1995.
II-D-57	Comments from Arthur J. Fossa, New York State Department of Environmental Conservation, to Tad Wysor, U.S. EPA, dated October 23, 1995.
II-D-58	Comments from Urvan R. Sternfels, National Petroleum Refiners Association, to U.S. EPA Air Docket, dated October 23, 1995.
II-D-59	Comments from Carl J. LaFoy, Clark Refining & Marketing, Inc., to U.S. EPA Air Docket, dated October 23, 1995.
II-D-60	Comments from Ann Farner, Tosco Corporation, to U.S. EPA Air Docket, dated October 23, 1995.

Number	Description
II-D-61	Comments from David West, State of New Jersey, to U.S. EPA Air Docket, dated October 23, 1995.
II-D-62	Comments from Dennis W. Lamb, 76 Products Company, to Margo Oge, Director OMS, dated October 13, 1995.
II-D-63	Comments from Lillian Kawasaki, City of Los Angeles, California, to U.S. EPA Air Docket dated October 20, 1995.
II-D-64	Letter from Kenneth A. Colburn, State of New Hampshire, to Carol Browner, Administrator, U.S. EPA, dated September 29, 1995.
II-D-65	Letter from G. Alan Whidby, Florida Petroleum Marketers Association, Inc., to Margo T. Oge, Director OMS, U.S. EPA dated September 27, 1995.
II-D-66	Letter from David Scott, Iowa Good Roads Association, Inc., to Margo T. Oge, Director OMS, U.S. EPA dated September 28, 1995.
II-D-67	Letter from Steve Rudloff, Missouri Limestone Producers Association, to Margo T. Oge, Director OMS, U.S. EPA dated October 2, 1995.
II-D-68	Letter from Gary B. Patterson, Delaware Highway User's Federation, to Margo T. Oge, Director OMS, U.S. EPA dated October 6, 1995.
II-D-69	Letter from Jack D. Atterberry, Associated General Contractors of Missouri, Inc., to Margo T. Oge, Director OMS, U.S. EPA dated September 28, 1995.

Number	Description
II-D-70	Letter from Charles W. Williams, Commissioner, Minnesota Pollution Control Agency, to U.S. EPA Public Docket dated December 13, 1995.
II-D-71	Letter and Resolution from Richard H. Baldwin, Ventura County Air Pollution Control District, to Mary Nichols, Assistant Administrator, U.S. EPA, January 18, 1996.
II-D-72	Letter from Fran DuMelle, American Lung Association, Jason Grumet, NESCAUM, and Bruce Bertelsen, MECA, to Mary Nichols, Assistant Administrator, U.S. EPA, January 29, 1996
II-D-73	Letter from Dennis Drake, Michigan DEQ, Bharat Mathur, Illinois EPA, Timothy Method, Indiana DEM, Donald Theiler, Wisconsin DNR, and Stephen Gerritson, Lake Michigan Air Directors Consortium, to Mary Nichols, Assistant Administrator, U.S. EPA, March 15, 1996.
II-D-74	Lake Michigan Ozone Study, Lake Michigan Ozone Control Program, Project Report (Executive Summary), December 1995.
II-D-75	Reducing Emissions From Heavy-Duty Trucks; California Perspective on NOx Control, presented by Tom Cackette, California Air Resources Board, SAE Government/Industry Meeting, April 2, 1996.
II-D-76	Letter from Bruce Carhart, Ozone Transport Commission, to Margo Oge, Administrator, U.S. EPA, March 12, 1996.
II-D-77	Comments from Michael E. Leister, Marathon Oil Company, to Carol M. Browner, Administrator, U.S. EPA, October 13, 1995.

Number	Description
II-D-78	Letter from S. William Becker, State and Territorial Air Pollution Program Administrators (STAPPA) and Association of Local Air Pollution Control Officials (ALAPCO) to Mary Nichols, Assistant Administrator, OAR/U.S. EPA, re forwarding enclosed STAPPA/ALAPCO resolution of support, October 20, 1995.
II-D-79	Report entitled "Conversion Factors for Secondary Formation of PM10 Nitrate from NOx Emissions for California," written by Leon J. Dolislager, Nehzat Motallebi and Bart E. Croes, Research Division, California Air Resources Board (CARB), June 6, 1996.
II-D-80	Report entitled "Learning Curves in Manufacturing," written by Linda Argote and Dennis Epple as published in Science, Volume 247, February 23, 1990.
II-D-81	Report entitled "Treating Progress Functions as a Managerial Opportunity," written by John M. Dutton and Annie Thomas, New York University, as published in the Academy of Management Review, Volume 9, number 2, pages 235-247, 1984.

#### Subcategory II-F: Interagency Review Materials

<u>Number</u>	<u>Description</u>
II-F-01	Letter from Barry Felrice, U.S. DOT, NHTSA, to Mike Samulski, U.S. EPA, dated December 29, 1995.
II-F-02	Letter from James E. Scapellato, U.S. DOT, FHA, to Mike Samulski, U.S. EPA, dated January 23, 1996.
II-F-03	Heavy-Duty Engine NPRM Preamble Draft, comments from Troy Hillier and Rich Thereux, Office of Management and Budget (OMB), Office of Information and Regulatory Affairs, May 29, 1996.
II-F-04	EPA response to Office of Management and Budget comments on the NPRM, June 6, 1996.

#### Subcategory III-A: Notice of Proposed Rulemaking

Number	<u>Description</u>
III-A-01	"Notice of Proposed Rulemaking," signed June 19, 1996.
III-A-02	Control of Emissions of Air Pollution from Heavy-Duty Engines, Notice of Proposed Rulemaking, Draft Regulatory Text, not dated.
III-A-03	Draft Information Collection Request for Control of Air Pollution from Highway Heavy-duty Engines, Notice of Proposed Rulemaking, submitted to the Office of Management and Budget, July 1996.

#### Subcategory III-B: Proposed Support Document

Number	Description
III-B-01	U.S. EPA Draft Regulatory Impact Analysis: Control of Emissions of Air Pollution from Highway Heavy-Duty Engines. June 6, 1996.

#### Subcategory IV-A: Additional EPA Studies or Contractor Reports

Number	<u>Description</u>
IV-A-01	Final Report "Benefits of Mobile Source NOx Related Particulate Matter Reductions" prepared for U.S. EPA under contract #68-C5-0010 by Systems Applications International, 10-96
IV-A-02	Final Report "Industry Characterization: On-Road Heavy Duty Diesel Engine Rebuilders" prepared for U.S. EPA under contract #68-C5-0010 by ICF, Inc., 1-3-97
IV-A-03	Draft Final Report "Benefits of Reducing Mobile Source NOx Emissions" prepared for U.S. EPA by ICF, Inc., 9-30-96
IV-A-04	Report EPA-230-S-95-002 "Summaries of Local-Scale Source Characterization Studies" prepared for U.S. EPA, OPPE, by E.H. Pechan & Associates, Inc., 7-94
IV-A-05	Final Report "Update of EPA's Motor Vehicle Emission Control Equipment Retail Price Equivalent (RPE) Calculation Formula" prepared for U.S. EPA under contract #68-03-3244 by Jack Faucett Associates, 9-4-85

#### Subcategory IV-B: Additional EPA Factual Memoranda

Number	<u>Description</u>
IV-B-01	Memorandum of Understanding, Developing an Understanding of In-use Emissions from Heavy-duty Diesel Engines, signed by Margo Oge, U.S. EPA, Jason Grumet, Northeast States for Coordinated Air Use Management, and Michael Kenny, California Air Resources Board, fax dated 03-21-97.
IV-B-02	Memorandum to Air Docket from Carol Bohnenkamp, U.S. EPA Region 9, re regional nature of secondary nitrate PM in California, 7-30-97.
IV-B-03	Memorandum to Tad Wysor, U.S. EPA, from Norm Possiel, AQMG/EMAD/RTP, re U.S. EPA Staff Observations from Recent Air Quality Modeling, 8-18-97.
IV-B-04	Memorandum & diskette to Air Docket from Phil Carlson, U.S. EPA, re Cost-Effectiveness Analysis of New Heavy-Duty Diesel Engine Standards, 8-8-97.

### Subcategory IV-C: Additional EPA Correspondence to Persons Outside the Agency

Number	<u>Description</u>
IV-C-01	Document entitled Guidance to States on In-use Smoke Test Procedure for Highway Heavy-duty Diesel Vehicles, signed by Margo Oge, Director, Office of Mobile Sources, U.S. EPA, 04-03-97.
IV-C-02	Memorandum & draft regulations from Christopher Lieske, U.S. EPA, to docket re draft regulations provided to Engine Manufacturers Association in August 1997, 9-18-97.
IV-C-03	Letter to all interested parties from Chester J. France, U.S. EPA, announcing the signing of final rule "Control of Emissions of Air Pollution from Highway Heavy-duty Engines," (with attached news release, fact sheets "New Emission Standards for Heavy-duty Diesel Engines Used in Trucks & Buses" & "Proposed New Emission Standards for Nonroad Diesel Engines"), 10-7-97

Number	Description
IV-D-01	Comments from D.W. Lamb, 76 Products Company, to U.S. EPA Air Docket, 08-15-96.
IV-D-02	Comments from Richard H. Baldwin, Ventura County Air Pollution Control District, to U.S. EPA Air Docket, 08-13-96.
IV-D-03	Comments from Fran Du Melle, American Lung Association, to U.S. EPA Air Docket, 04-12-96.
IV-D-04	Comments from Jerry C. Summers, Rhone-Poulenc, to U.S. EPA Air Docket, 08-26-96.
IV-D-05	Letter/facsimile from Antonina Penman, General Motors Corporation, to Glenn Passavant, U.S. EPA, July 24, 1996.
IV-D-06	Comments from Sharon Nichols, Western Highway Institute, to U.S. EPA Air Docket, September 6, 1996.
IV-D-07	Comments from Jed Mandel (Counsel) presented on behalf of the Engine Manufacturers Association (Glenn Keller), to U.S. EPA Air Docket, September 12, 1996.
IV-D-08	Comments from John Elston, State and Territorial Air Pollution Programs Administrators (STAPPA), and Richard Baldwin, Association of Local Air Pollution Control Officials (ALAPCO), to U.S. EPA Air Docket, September 12, 1996.
IV-D-09	Comments from Brent Stanley, Boston Gas Company, to U.S. EPA Air Docket, September 10, 1996.
IV-D-10	Comments from Richard Kolodziej, Natural Gas Vehicle Coalition, to U.S. EPA Air Docket, September 12, 1996.

Number	Description
IV-D-11	Comments from Detroit Diesel Corporation to U.S. EPA Air Docket, September 12, 1996.
IV-D-12	Comments from E. Ridenour, Chrysler Corporation, to U.S. EPA Air Docket, September 11, 1996.
IV-D-13	Comments from Lauren Dunlop, Southern California Gas Company, to U.S. EPA Air Docket, September 10, 1996.
IV-D-14	Comments from Caterpillar, Inc., to U.S. EPA Air Docket, June 27, 1996.
IV-D-15	Comments submitted on behalf of the Union of Concerned Scientists, the Natural Resources Defense Council, the American Lung Association, the American Lung Association of New York State, the Coalition for Clean Air, the Environmental Defense Fund, the New Jersey Environmental Lobby, the New Jersey Public Interest Research Group (Citizen Lobby), the New York City Environmental Justice Alliance, the Environmental Advocates, the Scenic Hudson, Inc., the Sierra Club of California, the Transportation Alternatives, the Tri-State Transportation Campaign, and the West Harlem Environmental Action, to U.S. EPA Air Docket, September 11, 1991.
IV-D-16	Comments submitted by Veronica Kim, Natural Resources Defense Council (NRDC), on behalf of NRDC, the Union of Concerned Scientists, the American Lung Association, the Sierra Club of California, the Coalition for Clean Air, and the Arizona Center for Law in the Public Interest, to U.S. EPA Air Docket, October 23, 1995.
IV-D-17	Comments from Robert Jorgensen, Cummins Engine Company, Inc., to U.S. EPA Air Docket, September 11, 1996.

Number	<u>Description</u>
IV-D-18	Comments from Dan Pearson, Texas Natural Resource Conservation Commission, to U.S. EPA Air Docket, September 12, 1996.
IV-D-19	Comments from Jason Grumet, Northeast States for Coordinated Air Use Management (NESCAUM), to Mary Nichols, Assistant Administrator, U.S. EPA, September 11, 1996.
IV-D-20	Comments from Glenn Shetter, Mack Trucks, Inc., to U.S. EPA Air Docket, 09-10-96.
IV-D-21	Comments from Allen Schaeffer, American Trucking Associations, Inc., to U.S. EPA Air Docket, September 12, 1996.
IV-D-22	Comments from William O'Keefe, American Petroleum Institute, to Margo Oge, Director, OMS, September 12, 1996.
IV-D-23	Comments from Urvan Sternfels, National Petroleum Refiners Association, to U.S. EPA Air Docket, September 12, 1996.
IV-D-24	Comments from Douglas Greenhaus, National Automobile Dealers Association, to U.S. EPA Air Docket, September 12, 1996.
IV-D-25	Comments from Gregory Vlasek, California Natural Gas Vehicle Coalition, to U.S. EPA Air Docket, September 11, 1996.
IV-D-26	Comments from Kelly Brown, Ford Motor Company, to Margo Oge, Director OMS, U.S. EPA, September 9, 1996.

Number	Description
IV-D-27	Comments from James Strock, California Environmental Protection Agency, to Carol Browner, Administrator, U.S. EPA, August 26, 1996.
IV-D-28	Comments from Carl LaFoy, Clark Refining & Marketing, Inc., to U.S. EPA Air Docket, September 9, 1996.
IV-D-29	Comments from Dennis Zane, Urban Dimensions, to U.S. EPA Air Docket, September 12, 1996.
IV-D-30	Comments from Barbara Kwetz, Commonwealth of Massachusetts, to U.S. EPA Air Docket, September 11, 1996.
IV-D-31	Comments from S. Leonard, General Motors, to U.S. EPA Air Docket, September 10, 1996.
IV-D-32	Comments from Michael Leister, Marathon Oil Company, to U.S. EPA Air Docket, September 10, 1996. [Original IV-D-32 from the Commonwealth of Virginia returned to Washington for a different docket.]
IV-D-33	Comments from Bruce Bertelson, Manufacturers of Emission Controls Association (MECA), to U.S. EPA Air Docket, September 19, 1996.
IV-D-34	Memorandum from Christopher Lieske, U.S. EPA, to Air Docket re Comments on Draft Regulatory Text submitted by the Engine Manufacturers Association, September 18, 1997.

### Subcategory IV-E: EPA Memorandum of Meetings/Telephone Conversations With Outside Groups

Number	Description
IV-E-01	Memorandum from Tad Wysor, U.S. EPA, to dockets A-95-27 & A-96-40 re meeting with Natural Resources Defense Council & Clean Air Network on Heavy-Duty Engine Initiative, 8-15-96
IV-E-02	Memorandum from Tad Wysor, U.S. EPA, to docket re summary of public comments at California Consultative Process Kickoff Meeting, 08-14-96. Included: 1) Statement of Engine Manufacturers Association, 2) EPA presentation entitled "Highway Heavy-duty Engine Initiative - Notice of Proposed Rulemaking", & 3) Cal/EPA - Air Resources Board presentation entitled "State Implementation Plan - Reducing Mobile Source Emissions", 8-14-96
IV-E-03	Memorandum from Julia Barrow, U.S. EPA Region 9, to Don Kopinski/Glenn Passavant, U.S. EPA, re telephone conversation with Cliff Gladstein on Averaging, Banking and Trading, 8-7-96
IV-E-04	Memorandum & meeting materials from Christopher Lieske, U.S. EPA, to docket re meeting with natural gas industry representatives, 8-21-96
IV-E-05	Memorandum & meeting materials from Christopher Lieske, U.S. EPA, to docket re meeting with Engine Manufacturers Association & member companies, 9-6-96
IV-E-06	Memorandum & meeting materials from Glenn Passavant, U.S. EPA, to docket re meeting with state & environmental organizations comments on HDE NMHC+NOx NPRM & facsimile of 2-18-97
IV-E-07	Memorandum & meeting materials from Glenn Passavant, U.S. EPA, to docket re meeting with EMA on ABT provisions of HDE Nox NPRM, 2-21-97

### Subcategory IV-E: EPA Memorandum of Meetings/Telephone Conversations With Outside Groups

Number	Description
IV-E-08	Memorandum & attendees list from Glenn Passavant, U.S. EPA, to docket re meeting with industry on Otto Cycle Engine Emission Standards for 2004 & later, 5-14-97
IV-E-09	Memorandum & meeting materials from Glenn Passavant, U.S. EPA, to docket re meeting with states & environmental groups on Proposed Highway HDE NMHC+NOx Rule, 5-27-97
IV-E-10	Memorandum & briefing materials from Christopher Lieske, U.S. EPA, to docket re conference call with State & Territorial Air Pollution Program Administrators (STAPPA) & Association of Local Air Pollution Control Officials (ALAPCO), 5-28-97
IV-E-11	Memorandum & attendees list from Christopher Lieske, U.S. EPA, to docket re meetings with Otto-cycle Heavy-duty Engine Manufacturers, 4-28-97
IV-E-12	Memorandum from Christopher Lieske, U.S. EPA, to docket re telephone conversations with Detroit Diesel Corporation & Cummins Engine Company, 4-29-97
IV-E-13	Memorandum & meeting materials from Christopher Lieske, U.S. EPA, to docket re meeting with Navistar International in August 1996, 5-29-97
IV-E-14	Memorandum & meeting materials from Christopher Lieske, U.S. EPA, to docket re meeting with Manufacturers of Emission Controls Association (MECA) 11-12-96, 5-29-97
IV-E-15	Memorandum & meeting materials from Christopher Lieske, U.S. EPA, to docket re meeting with Otto-cycle Heavy-duty Engine Manufacturers, 6-30-97

### Subcategory IV-E: EPA Memorandum of Meetings/Telephone Conversations With Outside Groups

Number	Description
IV-E-16	Memorandum & meeting materials from Glenn Passavant, U.S. EPA, to docket re conference call with States & Environmental Community on Otto-cycle Emission Standards, 7-3-97
IV-E-17	Memorandum & attendees list from Glenn Passavant, U.S. EPA, to docket re conference call with AAMA representatives on Otto-cycle Engine Emission Standards & Related Requirements, 7-3-97
IV-E-18	Memorandum & briefing materials from Christopher Lieske, U.S. EPA, to docket re briefing for Office of Management & Budget (OMB), 7-18-97
IV-E-19	Memorandum & meeting materials from Christopher Lieske, U.S. EPA, to docket re meeting with Otto- cycle Heavy-Duty Engine Manufacturers, 10-9-97

#### Subcategory IV-F: Transcript of Hearings/Testimony

Number	Description
IV-F-01	Transcript from EPA Hearing held August 12, 1996, at the Ypsilanti Marriott re "Control of Emissions of Air Pollution from Highway Heavy-Duty Engines."
IV-F-02	Testimony of the Engine Manufacturers Association (EMA) before EPA at August 12, 1996 public hearing.
IV-F-03	Testimony of General Motors Corporation before EPA at August 12, 1996 public hearing.
IV-F-04	Testimony of the Northeast States for Coordinated Air Use Management (NESCAUM) before EPA at August 12, 1996 public hearing.
IV-F-05	Testimony of the California Air Resources Board (CARB) before EPA at August 12, 1996 public hearing.
IV-F-06	Testimony of Chrysler Corporation before EPA at August 12, 1996 public hearing.
IV-F-07	Testimony of Cummins Engine Company before EPA at August 12, 1996 public hearing.
IV-F-08	Testimony of Manufacturers of Emission Controls Association (MECA) before EPA at August 12, 1996 public hearing.
IV-F-09	Testimony of American Trucking Associations, Inc., before EPA at August 12, 1996 public hearing.
IV-F-10	Testimony of Ford Motor Company before EPA at August 12, 1996 public hearing.
IV-F-11	Testimony of AERA - Engine Rebuilders Association before EPA at August 12, 1996 public hearing.

#### Subcategory IV-H: Interagency Review Materials

Number	Description
IV-H-01	Letter/facsimile from Raymond Mosley, Office of the Federal Register, to Michael Samulski, U.S. EPA, re incorporation by reference, 6-19-97.
IV-H-02	Comments received from OMB on Draft Preamble, 9-18-97.
IV-H-03	Response to OMB comments on Draft Preamble, 9-22-97.
IV-H-04	Revised pages of Highway Heavy-Duty Engines Final Rule as submitted to OMB, 8-28-97.
IV-H-05	Draft Preamble for Highway Heavy-Duty Engines Final Rule as submitted to OMB, 7-19-97.
IV-H-06	Draft Regulatory Text for Highway Engines Final Rule as submitted to OMB, 7-19-97.
IV-H-07	Draft Summary & Analysis of Comments for Highway Engines Final Rule as submitted to OMB, 7-19-97.
IV-H-08	Draft Regulatory Impact Analysis for Highway Engines Final Rule as submitted to OMB, 7-19-97.

#### Subcategory V - Final Action

Number	<u>Description</u>
V-A-01	40 CFR Parts 9 & 86 "Control of Emissions of Air Pollution from Highway Heavy-Duty Engines; Final Rule," as printed in <u>Federal</u> Register 10-21-97.
V-B-01	Final Regulatory Impact Analysis: Control of Emissions of Air Pollution from Highway Heavy-Duty Engines, 9-16-97.
V-C-01	Summary & Analysis of Comments: Control of Emissions of Air Pollution from Highway Heavy-Duty Engines, 9-16-97.